

**REMARKS**

Claims 1-26 are pending in the application. Claims 1, 25 and 26 are the independent claims.

**Information Disclosure Statements**

Applicants thank the Office for considering and initialing the references submitted in the Information Disclosure Statements filed on May 5, 2005 and October 25, 2005.

However, it is not clear that the Office considered the references submitted in the Information Disclosure Statement (“IDS”) filed on February 4, 2005. Applicants kindly request that the Office provide a list of the February 4, 2005 IDS references, initialed by the Examiner to evidence their consideration, with the Office’s next communication.

**The Claims Satisfy 35 U.S.C. § 112**

The Office has rejected claim 18 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the Office contends that there is insufficient antecedent basis for the phrase “the determined coefficients” in claim 18 in view of the “one or more” terminology recited in claim 1.

While Applicants respectfully disagree with the Office’s contention, in an effort to expedite prosecution Applicants have amended the pending claims (claims 1, 10-14, 18, 23-26) to more clearly recite the invention to the Office. The amendments do not narrow the claim scope and no surrender of subject matter is intended.

Accordingly, Applicants respectfully submit that the pending claims satisfy 35 U.S.C. § 112, second paragraph, and reconsideration and withdrawal of this rejection is therefore respectfully requested.

**The Claims Are Not Anticipated by Weiss**

The Office has rejected claims 1-5, 7, 11-17 and 25-26 under 35 U.S.C. § 102(b) as being anticipated by Weiss (U.S.P. 5,740,266). Applicants respectfully traverse this rejection, and submit that each pending claim is patentably distinguishable over Weiss.

In order for a claim to be anticipated under 35 U.S.C. § 102, the reference must disclose, either expressly or inherently, each and every element as set forth in the claim. M.P.E.P. § 2131. Such anticipation does not occur in the instant application, however, because Weiss fails to disclose each and every element as set forth in the pending claims for at least the following reasons:

**Weiss Does Not Teach or Suggest Determining Coefficients of a Mathematical Function**

Independent claim 1 recites, in part, “determining one or more coefficients of one or more mathematical functions that describe the identified shape”. Independent claims 25 and 26 recited similar limitations. Weiss neither teaches nor suggests such a limitation.

Weiss describes a process of calculating a radius of curvature value for individual points on an outline, plotting a graph of these values, calculating an area of a portion of this graph, and utilizing this area value to assess a Spina Bifida abnormality (Weiss, col. 9, lines 14-49). Nothing in Weiss teaches or suggests determining one or more *coefficients* of any mathematical function that describes the identified shape as recited by independent claim 1. In fact, the word “coefficient” does not even appear in Weiss.

In the Office action, the Office cites to “determining mathematical curvature coefficients” in Weiss, but the section of Weiss identified by the Office to support this citation lacks any mention or disclosure of determining coefficients. As stated above, Weiss merely calculates radius of curvature *values* and plots them. A value produced by a function cannot reasonably be considered a coefficient of that function.

Accordingly, for at least this reason, Weiss cannot anticipate independent claims 1, 25 and 26. Furthermore, as each of dependent claims 2-24 depend from and further limit independent claim 1, Applicants respectfully submit that for at least the same reason as above claims 2-24 also cannot be anticipated by Weiss under 35 U.S.C. § 102.

**Weiss Does Not Teach or Suggest Determining Coefficients of a Mathematical Function**

Independent claim 1 recites, in part, “utilizing the determined one or more coefficients as markers to assess fetal abnormality”. Independent claims 25 and 26 recited similar limitations. Weiss neither teaches nor suggests such a limitation.

As described above, Weiss describes a process of calculating a radius of curvature value for individual points on an outline, plotting a graph of these values, calculating an area of a portion of this graph, and utilizing this area value to assess a Spina Bifida abnormality. Weiss, col. 9, lines 14-49. Nothing in Weiss teaches or suggests utilizing any coefficient of a mathematical function as a marker to assess an abnormality as recited by independent claim 1. As mentioned above, the word “coefficient” does not even appear in Weiss.

In the Office action, the Office concedes that the *area value* in Weiss is the ““figure of merit’ or single-valued measurement marker for indication of spina bifida”. Office action, page 3. Thus, since a calculated area value clearly is not a coefficient of a mathematical function, Weiss does not utilize a coefficient of a mathematical function as a marker to assess an abnormality as recited by independent claim 1, and therefore cannot anticipate independent claim 1.

Accordingly, for at least this reason, Weiss cannot anticipate independent claims 1, 25 and 26. Furthermore, as each of dependent claims 2-24 depend from and further limit independent claim 1, Applicants respectfully submit that for at least the same reason as above claims 2-24 also cannot be anticipated by Weiss under 35 U.S.C. § 102.

**The Claims Are Non-Obvious Over Weiss in View of Jeffery or Tamez-Pena**

The Office has rejected claims 6 and 21-24 under 35 U.S.C. 103(a) as being unpatentable over Weiss in view of Jeffery (Amer. Jnl Phys. Anthr. 123:78-90) or Tamez-Pena (U.S.P. 6,836,557). Applicants respectfully submit that the Office action does not establish a *prima facie* case of obviousness, because the suggestions or motivations provided by the Office do not cure the deficiencies of Weiss (the 35 U.S.C. § 102 art) as explained above.

Accordingly, Applicants submit that all of the pending claims, independent and dependent, are non-obvious over Weiss in view of Jeffery or Tamez-Pena under 35 U.S.C. § 103.

**The Claims Are Non-Obvious Over Weiss in View of Geiser**

The Office has rejected claims 8 and 9 under 35 U.S.C. 103(a) as being unpatentable over Weiss in view of Geiser (U.S.P. 5,797,396). Applicants respectfully submit that the Office action does not establish a *prima facie* case of obviousness, because the suggestions or motivations provided by the Office do not cure the deficiencies of Weiss (the 35 U.S.C. § 102 art) as explained above.

Accordingly, Applicants submit that all of the pending claims, independent and dependent, are non-obvious over Weiss in view of Geiser under 35 U.S.C. § 103.

**The Claims Are Non-Obvious Over Weiss in View of Abdelhak**

The Office has rejected claims 10 and 18 under 35 U.S.C. 103(a) as being unpatentable over Weiss in view of Abdelhak (U.S.P. 6,939,301). Applicants respectfully submit that the Office action does not establish a *prima facie* case of obviousness, because the suggestions or motivations provided by the Office do not cure the deficiencies of Weiss (the 35 U.S.C. § 102 art) as explained above.

Accordingly, Applicants submit that all of the pending claims, independent and dependent, are non-obvious over Weiss in view of Abdelhak under 35 U.S.C. § 103.

**The Claims Are Non-Obvious Over Weiss in View of Vintzileos**

The Office has rejected claims 18-20 under 35 U.S.C. 103(a) as being unpatentable over Weiss in view of Vintzileos (U.S.P. 5,622,176). Applicants respectfully submit that the Office action does not establish a *prima facie* case of obviousness, because the suggestions or motivations provided by the Office do not cure the deficiencies of Weiss (the 35 U.S.C. § 102 art) as explained above.

Accordingly, Applicants submit that all of the pending claims, independent and dependent, are non-obvious over Weiss in view of Vintzileos under 35 U.S.C. § 103.

**CONCLUSION**

It is respectfully submitted that, in view of the foregoing amendments and remarks, the application is in clear condition for allowance. Issuance of a Notice of Allowance is earnestly solicited.

The Office is authorized to charge the one-month small entity extension of time fee of \$60.00 to Deposit Account No. 11-0600. A copy of this page is provided for this purpose.

Although not believed necessary, the Office is hereby authorized to charge any further fees required under 37 C.F.R. § 1.16 or § 1.17 or credit any overpayments to Deposit Account No. 11-0600.

The Office is invited to contact the undersigned at 202-220-4200 to discuss any matter regarding this application.

Respectfully submitted,

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